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AUTHOR Moles, Oliver C.; Perry, Esther
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ABSTRACT

This paper presents a study which related teachers expectations of student achievement after two weeks of classroom contact to several possible sources: student classroom performance, prior school performance, parental involvement, and student status characteristics. Their temporal order and relative influence are examined via a path model and multivariate statistics. Preliminary zero-order relationships suggest the importance of at least some variables measuring each concept. Data are from six first grade classrooms in two schools in a large urban area. Implications of the findings for future research and educational innovations are discussed. (ED)

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SOURCES OF TEACHER EXPECTATIONS EARLY IN FIRST GRADE*

BY

OLIVER C. MOLES

AND

ESTHER PERRY

NATIONAL INSTITUTE OF EDUCATION

WASHINGTON, D.C.

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SOURCES OF TEACHER EXPECTATIONS
EARLY IN FIRST GRADE

This report will explore possible sources of the expectations that teachers hold for student achievement early in the school year. The importance of first information in forming impressions of persons has been demonstrated some time ago in Asch's (1946) experiments. More recently, a study by Willis (1972) has shown that within the first two weeks of school teachers form definite impressions of first graders which remain fairly stable over the months to follow.

What then are some of the differences between children which influence these early evaluations? These differences might be in a variety of areas as indicated by the student characteristics to be discussed in this report: early first-grade academic performance, conduct, kindergarten performance, parental involvement, sex and socio-economic status. This paper will examine their interrelationships via path analysis in order to chart their temporal order and determine their relative influence. The emphasis is both on kinds of information such as the student's past achievement, and the sources of such information whether in direct observation, test scores, cumulative records, school reporting forms or elsewhere.

Since so many sources of information are available to teachers almost from the beginning of the school year, they may not be fully aware of the impact of such information on

their expectations. The teacher's use of certain kinds of information may also be prejudicial to students. For example, while socio-economic status is known to affect achievement (Coleman, 1966), it would be much fairer for teachers to base their academic expectations (and grading) on the student's demonstrated achievement rather than on the presumption that higher status students perform better than lower status students. Otherwise, students may be encouraged or criticized because of attributes they themselves cannot control. We will return to this question of equalizing educational opportunity later.

Background

A great deal of recent research focusing on whether teacher expectations are self-fulfilling has been adequately reviewed elsewhere (Baker & Christ, 1971; Brophy & Good, 1974; Finn, 1972; West & Anderson, 1974). In general, expectancy effects have been observed more often in naturalistic studies than in those where teacher expectations have been experimentally induced (Brophy & Good, 1974). Natuaralistic studies are particularly useful as they draw on actual classroom experience and permit easier generalization of findings back to the classroom. While experimental studies can arrange greater control over extraneous conditions, there is less assurance that the levels of variables created in experiments correspond to the levels existing in the classroom. Ethical considerations

might prevent one from inducing low expectations whereas they occur naturally in the classroom. Also, with new multivariate techniques such as path analysis a number of variables can be incorporated in their natural sequence even in naturalistic studies.

There has been little research on the formation of teacher expectations in naturalistic settings. An exception is Willis' (1972) study of first-grade teachers. Expected achievement rated after two weeks of school was significantly correlated with teachers' spontaneous comments about childrens' social and emotional characteristics, readiness for school and work-related behavior for both boys and girls. This study is a rich source of information on teachers' perceptions of students, but does not examine the child's characteristics independent of their perceptions. Some of the literature linking student sex, socio-economic status, conduct and ability to achieve and teacher-student interactions may provide clues to their effects on teacher expectations.

Reviews of sex differences in intellectual development have shown that girls generally receive better grades than boys even in subjects in which boys score higher on achievement tests (Maccoby, 1966; McNeil, 1964). Studies by Palardy (1966) and by Doyle, Hancock and Kifer (1972) strongly suggest that the sex differences they found in reading achievement were mediated by teacher expectations and preferential treatment favoring girls. In addition, boys are more aggressive (Maccoby, 1966) and more salient in the classroom than girls (Brophy &

Good, 1970) which may help explain why boys interact more with their teachers and also receive more behavioral criticisms as noted in several studies (Brophy & Good, 1970; Evertson, Brophy & Good, 1973; Felsenthal, 1970; Jackson & Lahaderne, 1967).

Feshbach (1969) has observed that elementary school teachers prefer the conforming over active, assertive students. Others have reported that elementary teachers view the cooperative, self-controlled child as more academically capable (LaVoie & Adams, 1973). In addition to objective differences, however, a certain amount of stereotyping may also exist. In another elementary school study, boys and girls did not differ on observed behavior although boys were both scolded as well as praised more by female teachers (Etaugh & Harlow, 1973).

In summary, there seems to be a tendency for elementary school teachers to expect and get higher achievement from girls. This in turn may be linked to the greater conformity perceived of girls. More cooperative children regardless of sex are expected to perform better academically.

Research concerning the socio-economic status of students tends to indicate that teachers have more positive interaction with higher SES students and overestimate their ability. In a study by Goodwin and Sanders (1969) first-grade

teachers ranked SES as the most important of seven variables they would use to predict school success.

After only one to two weeks of school, the kindergarten teacher observed by Rist (1970) divided the class into three groups based on the SES of the students. Middle-class children were seated at one table closest to the teacher, were also considered brighter, and had more interaction with her.

A number of other studies have also concluded that teachers have more negative attitudes toward lower SES students and provide them with less reinforcing behavior and positive contacts (Hoehn, 1954; Yee 1968; Leacock, 1969).

Teacher-student relationships are also influenced by other factors such as information teachers may glean from the cumulative records of students. In a national survey of elementary schools, (Austin and Morrison, 1963) 80 percent of the teachers questioned reported using readiness test scores either always, or often to determine when children should be placed into a formal reading program. Another study of 120 elementary teachers found that the teacher's prediction of expected achievement was influenced more by readiness test scores than by race, SES, or other factors (Long and Henderson, 1972). Similar results were also reported by Yee (1972). On the other hand, when Hastings (1966) provided hypothetical cumulative folders of students to teachers he found they considered the anecdotal comments made by other teachers more

important than intelligence test results in predicting school success. In Jackson's (1968) classic study of classrooms, teachers did not rely on test information to predict success in schools as much as they did on daily observation and interaction with students.

Discrepant findings on the importance of SES, such as those cited here, led Brophy and Good (1974) to conclude that SES and race are used only in the absence of more academically relevant information. The teacher's own observations on the student's performance might also be expected to take precedence over test data if sources were arranged in order of the amount of information provided.

The Path Model

The studies reviewed suggest that a number of factors may influence the teacher's expectations for a student's achievement. These include socio-economic status, sex, classroom conduct, observable academic performance and cumulative records data on tests taken and performance in past years. Studies were not always consistent as to which was more powerful, and not all these predictor variables were included in any one study.

In the context of this study, SES and sex may plausibly affect these variables: kindergarten and early first grade academic performance, first grade conduct and parental involvement with their child's schooling. In addition, sex is directly observable, SES indicators are easy to obtain,

and both may be used directly by the teacher as she forms academic expectations for her students. Kindergarten performance will presumably affect later academic performance. Informaton contained in cumulative records such as test data and conduct grades, and discussion with the kindergarten teacher may also contribute to the formation of expectations. Those who did well in kindergarten should also be more cooperative with first grade teachers in hopes of being further rewarded. Parents of children who were unusually successful or unsuccessful in kindergarten might become more involved with the schools out of the satisfaction of the former, or a sense of urgency in the latter. Parental involvement in turn might lead teachers to expect more of the child. Since our literature review failed to locate any studies of these linkages, these predictions about parental involvement are based solely on speculations.

The relationships just described may be diagrammed as in Figure 1. Each arrow represents a prediction in this hypothetical model; variables which are logically and temporally prior appear sequentially to the left with teachers expectations farthest to the right. The child's SES and sex affect all other variables. Parental involvement, academic performance and conduct in first grade are not connected because they both occurred at about the same time.

The four indicators of SES are free lunches (a measure of family income), major breadwinners occupation, father's presence in the home, and mother's work status. This model is simplified in the sense that paths from each of these indicators to the other variables in the model are not depicted. They are identical to the paths from the global variable socio-economic status. These indicators are derived from two sources: an enrollment card used mainly for addresses and phone numbers in case of emergencies, and an eligibility form for Government-supported free lunches, both filled out by parents very early in the semester. Clothing, grooming and speech patterns are other clues teachers might use, but almost all children appeared well dressed and groomed. We did not hear the children speak enough to be able to characterize their speech patterns.

Since the focus is on within classroom differences, characteristics of the teaching situation and teachers are more or less the same and do not explain why expectations for some students are high and others low within the same classroom. Teachers differences will, therefore, be ignored.

Procedures

This study was conducted during the 1973-74 school year in six self-contained first-grade classrooms in two schools in a large urban area. The schools differed somewhat by income level: in one 55 percent of the students received free lunches while in the other this figure was 35 percent.

All classrooms were heterogeneous in student ability: the six female teachers and their students were black; eight of the 162 students were repeating first grade.

A primary reason for selecting grade one for this study was that expectancy effects have been demonstrated more often in the lower elementary grades (Rosenthal & Jacobson, 1968; Kerman, 1974; Brophy & Good, 1974). First grade teachers have accumulated less information on their students' past performance. For instance, in these school standardized tests had not been administered before the first grade. Student achievement may be less influenced by new teachers and their expectations after students have completed several years of school.

Data collected came from several sources: (a) interviews with the classroom teachers, (b) classroom observations during the first two weeks of school, and (c) information abstracted from the students' cumulative records obtained with parental permission. In order to make them less self conscious, the teachers were told that the observations were to determine how individual student differences affect the classroom behavior of the children.

Each variable in the path analysis is described below:

1. Teacher expectations. At the end of the second week of school, each teacher ranked her students on expected achievement. These rankings were later combined

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into five categories. In December, teachers placed their students into one of six categories ranging from highest to lowest expected achievement.

2. Socio-economic status indicators

   a. Free lunch - In December, teachers were asked to list children who, under Federal guidelines, qualified for free lunches at school. This yes-no variable was taken as an indicator of low family income.

   b. Major breadwinner's occupation - The occupation of the father, or mother in single-parent families was determined from school enrollment cards returned by parents each fall. Two status categories were formed: (1) white collar jobs plus craftsmen and foremen, (2) other blue collar and miscellaneious jobs and homemakers. This dichotomy divided the children about evenly.

   c. Fathers' presence in the home - Enrollment cards provided this information. If the father was present, the family was assumed to be more economically viable.

   d. Mother working - The school enrollment cards also noted her place of employment, if she worked. Working should improve the family's economic status regardless of whether the father is present.

3. Child's sex
4. Kindergarten performance - A 10-point scale composed of grades in reading preparation and math and teacher comments on report cards at the end of kindergarten, all weighted equally. Performance closest to first grade was presumably most relevant to first-grade teachers.
5. Parental involvement - A 4-point scale constructed from teacher interview comments in September as to parents they had met, perception of parental interest in child's schooling, and any thing else known about parents, each treated equally as a yes-no variable.
6. Early first-grade academic performance - The average of reading and math prescriptive tests given at the end of September. This is treated as a proxy for various teacher-made tests given during the first week or two of school whose results we did not have. Scores ranged 31-78, and results were not given to teachers until mid-December or later.
7. Early first-grade conduct - A 6-point scale was derived from reprimands observed during the first two weeks of school and the spontaneous comments about each child's behavior made during the September interview when teachers were asked to report whatever impressions they had of each child.

Each of the yes-no or two category variable like sex was treated as a 0-1 dummy variable.

Results

The Pearson product-moment correlation coefficients among all variables in the model are presented in Table 1. These are input for the regression analysis which produces standardized regression coefficients (Betas) which are the path coefficients. Note that expected achievement was measured in September and December to check the stability over time of predictive relationships observed early in the school year. The correlation between expectations at these two points in time is .71 indicating a considerable degree of stability in expectations for the six teachers. This corresponds very well with stability coefficients obtained in a much larger study by Willis (1972).

Turning to the path model itself, all statistically significant (.05 level) path coefficients for September sources of teacher expectations are drawn into Figure 2-A. Not receiving free lunches or having a mother who works increased kindergarten performance modestly (coefficients of .21 and .25 respectively). No other SES indicators nor sex predicted kindergarten performance at above a chance level. (All path coefficients are presented in Table 2.)

Parental involvement is unaffected by any other prior variable. On the other hand, early first-grade academic performance is also influenced by two SES variables: mother working and the major bradwinner's occupation. At this time the mother's work status is not as strong a predictor as the other SES variables (.18 and .21 respectively), and kindergarten performance itself also promotes first-grade performance to about the same extent (.23).

The only significant predictor of early first-grade conduct is kindergarten performance (.21). Conduct does not appear to influence teacher expectations in September to any appreciable extent. At the same time, both kindergarten and early first-grade academic performance have moderately large and equal paths to teacher expectations (.35 and .34). Parental involvement has a much smaller but still significant path (.16). It is of particular interest that kindergarten performance has an effect on expectations independent of its influence on first-grade performance since basically the same materials--reading and math--are covered by both measures. We will return to this point.

As a check on the stability of the predictor variables, December expectations were substituted in Figure 2-B. All paths remain the same except those to expectations, so only the latter are illustrated. By December, parental involvement

was unrelated to expectations. Information on parental involvement closer to December might have made a difference. On the other hand, some of the involvement measures used--acquaintance with and knowledge of the family--may have become very common by December. Teachers may also have had less need for using early parental involvement as a source of their expectations as they accumulated more experience with students. This last interpretation is supported by the strong path (.49) from early first-grade academic performance to expectations. While kindergarten performance was also a moderately strong predictor (.38) first-grade performance was by December clearly the stronger direct influence on expectations.

By December, the child's sex was also a significant, although weak, predictor (.11): girls were expected to achieve more than boys.

Discussion

One of the most interesting findings is the moderately strong independent effect of kindergarten performance on teacher expectations both in September and December. Since two of its three components are reading and math grades which were assessed again under early first-grade academic performance, one might assume that kindergarten performance would exert its influence solely by promoting better first-grade performance in the same subjects.

The fact that this was not the case, suggests that first-grade teachers may have used available information on kindergarten performance as an independent source of expectations. Some evidence of this possibility comes from questions asked each teacher in December about their discussion of children with their kindergarten teachers, and their use of different parts of the cumulative record. The two teachers who scored highest on a four-item index of indepedence from kindergarten information had an average correlation of .24 between kindergarten performance and expected achievement in September whereas the other four less independent teachers had an average correlation of .58. While not definitive, these correlations do support the assumption that direct contact with sources of information on kindergarten performance can make it a salient factor in the setting of expectations. This seems to occur despite the explicit statement by four of the six teachers that they did not rely much on past information and wanted to form their own conclusions about each child's ability.

On the other hand, it is reassuring to note that as the semester progressed early first-grade academic performance emerged as the strongest predictor of expectations. This is as it should be in a system where performance rather than socio-economic status, sex, or other extraneous factors determines

one's standing. It is also in agreement with Jackson's (1968) conclusion that daily observation and interaction with students are of prime importance to teachers in predicting the school success of children and the conception proposed earlier for ordering the disparate findings of other studies; namely, that teachers will utilize sources in proportion to the amount of academically relevant information they provide.

In this study girls only displayed a little better conduct than boys--not enough to be significant. In any event, unlike the findings of LaVoie and Adams (1973) conduct made no difference in teachers' judgment of academic capability. Conduct does have a modest partial correlation with academic performance (.29) indicating that the two interact, but the direction of such influence cannot be determined here. Different relationships might have been revealed had conduct (and other variables) been measured over a longer period; but in the absence of such measurement, early first-grade conduct seems a reasonable proxy for the conduct teachers might have observed up to December.

The weak, but significant direct influence of sex on teacher expectations suggests that there is emergence of favoritism toward girls, which has also been noted by previous studies. This is especially telling since sex affected no other variable in the model including performance or conduct. There is no way to hide the sex of students from teachers. The body of findings from various studies suggests that teachers

will simply have to become more aware of the possibility of stereotypic treatment. Such awareness may require much contemplation of attitudes and actions, possibly with assistance if our experience is any guide. Several teachers professed a perference for boys which, at least taking all teachers, was not borne out.

The SES indicator variables also deserve some comment. Those which produced any noticeable impact--free lunches, major breadwinner's occupation, and mothers who worked--did so on performance rather than expectations. The impact of SES on achievement has been well documented (Coleman, 1966). Could teachers have been unaware of SES differences thereby preventing SES from having any direct effect on expectations? One could argue that teachers did not peruse the enrollment cards for bits of SES related information about their students,and we have no evidence to the contrary. But they must have been quite aware of who got free lunches from the parental request forms and repeated lunch duty. It is more likely that, as Brophy and Good (1974) have concluded from their review of the literature, SES is only used when other more specific and reliable information is unavailable.

The mother's work status is not often used as an SES indicator, and the results were not predicted: children of mothers who worked achieved more in kindergarten and first grade. Where both parents worked, the occupation of the major breadwinner, who was usually the father, was

also higher (r=.21) These families seem to be striving hard to succeed economically. Some of this parental ambition may become transmitted to the child by means of parental role modeling and direct teaching at home. Evidently the mother's working is not a deterrent to the child's preparation for school. Working mothers could also have more often turned to Headstart which provides child care and instruction. While most of the children (85%) had been to kindergarten, we do not know what other pre-school experience they had.

Small studies such as this must of necessity raise more questions than they can answer. Findings from six teachers in two schools are a slender basis for generalization, and should best be viewed as hypotheses for further testing in larger-scale studies where teacher, student and system characteristics can be varied more widely. Nevertheless, the strength of path coefficients from kindergarten and early first-grade academic performance to expectations is impressive and raises the possibility that they more than other paths might be replicated.

Consequently, one result with specific action implications concerns the direct effect of kindergarten performance on expectations. If teachers refrained from consulting even briefly the comulative records on past performance and personality of students, many students might be judged more fully on their present merit instead of on the reputation they bring with them. Obviously, teachers will

still discuss some of their students with past teachers, but in the aggregate evaluations based on past performance would be reduced considerably. An experiment on expectation formation when records are withheld would be relatively easy to devise and implement logistically even on a large scale.

From what we already know about the effects of academic expectations, in the natural classroom, basing them more squarely on present student achievement should be a major concern of all who are concerned with equality of educational opportunity.

FIGURE 1 Simplified Hypothetical Model for Sources of Teacher Expectations

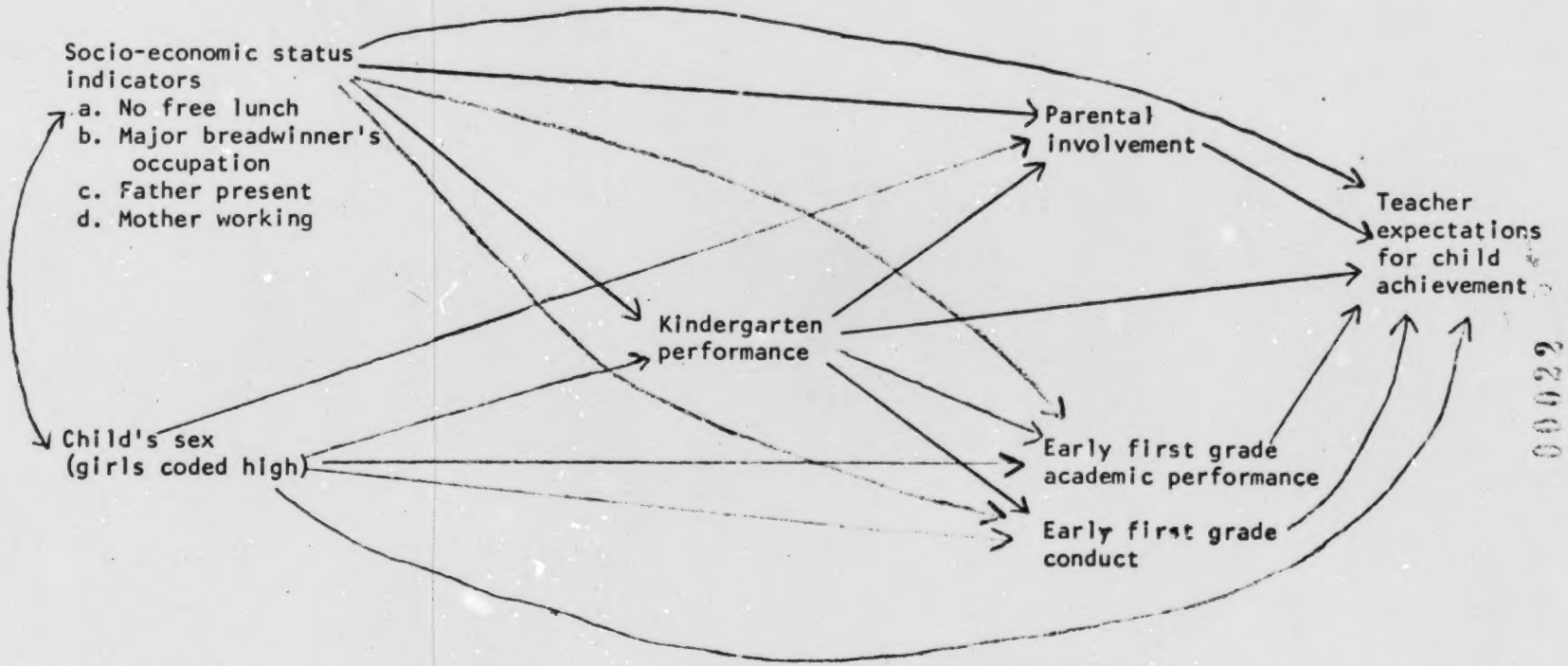

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FIGURE 2A. Sources of Teacher Expectations in September: Significant Path Coefficients at .05 Level

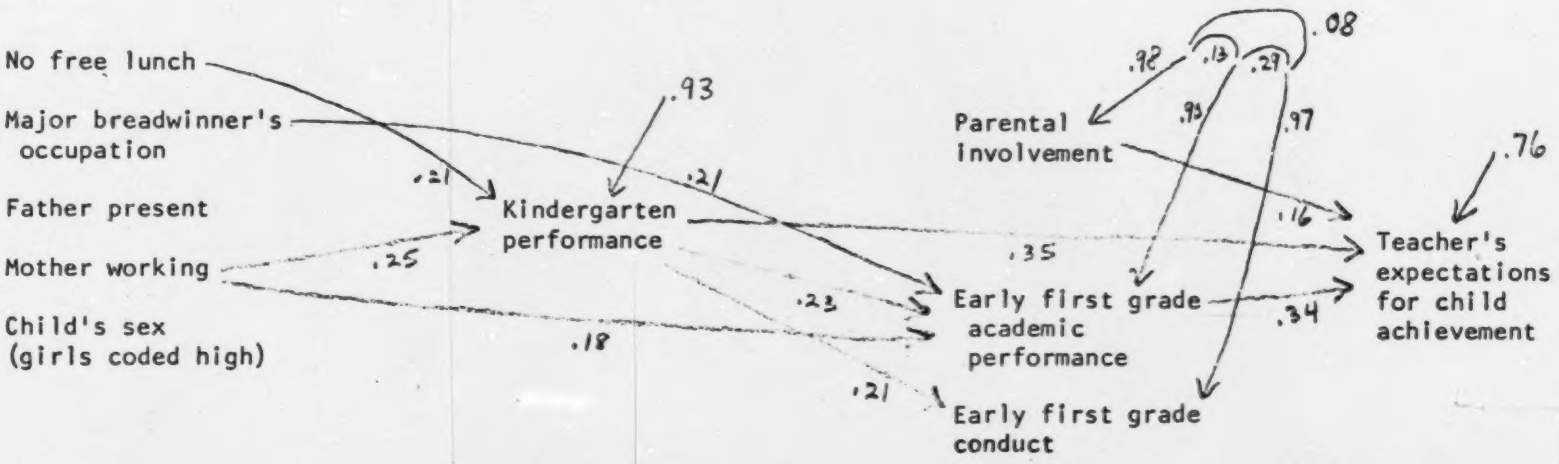
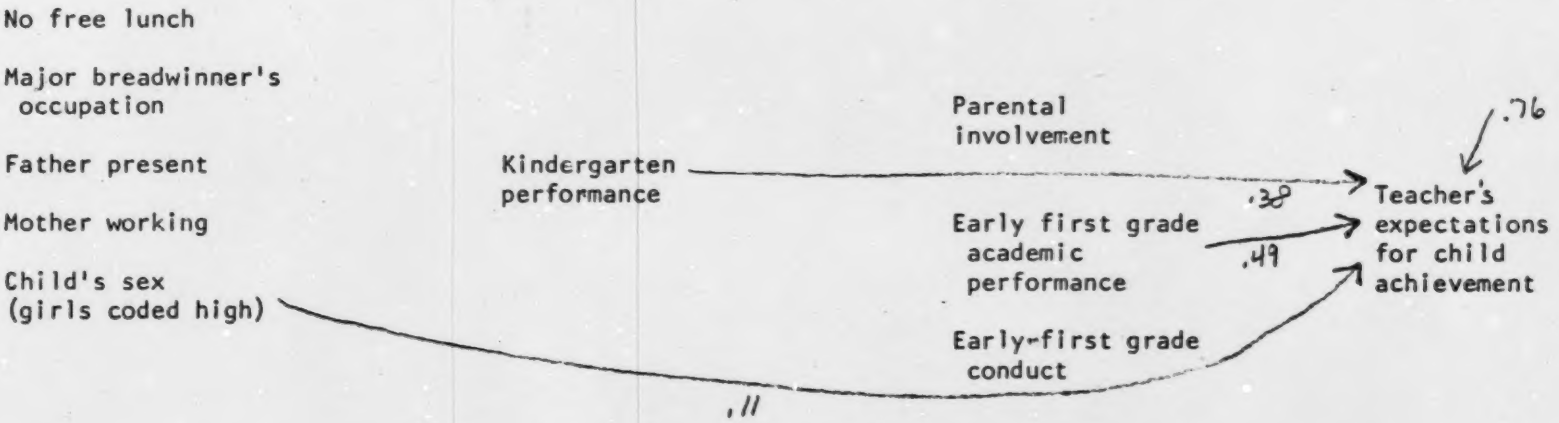


FIGURE 2B. Sources of Teacher Expectations in December: Significant Direct Paths to Teacher Expectations*



*Relationships among all other variables are identical to those in September diagram. The .05 level is used.

TABLE 1. Correlation Coefficients (r) among all Variables in Hypothetical Model

	1	2	3	4	5	6	7	8	9	10	11
1. No free lunch	--	.15	.27	.23	-.09	.27	.17	.18	.04	.14	.24
2. Major breadwinner's occupation*		--	.19	.21	.04	.07	.00	.26	-.12	.18	.20
3. Father present*			--	-.03	.04	.05	.09	.03	-.07	.06	.01
4. Mother working*				--	-.02	.29	.01	.31	.03	.30	.38
5. Child's sex (girls coded high)					--	-.03	-.10	-.09	.06	.04	.05
6. Kindergarten performance*						--	.11	.31	.20	.50	.58
7. Parental involvement							--	.16	.09	.24	.10
8. Early first grade academic performance*								--	.28	.51	.65
9. Early first grade conduct									--	.22	.25
10. September expected achievement										--	.71
11. December expected achievement											--

* Correlations involving these items are based on about 130 cases because of some missing data; all other correlations are based on 162 cases.

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TABLE 2. All Path Coefficients among September and December Model Variables

Predictors	Dependent Variables					
	Kindergarten performance	Parental involvement	Early academic performance	Early conduct	September expected achievement	December expected achievement
No free lunch	.21	.13	.05	.03	-.07	.04
Major breadwinner's occupation	-.01	-.02	.21	-.12	.05	.02
Father present	.00	.06	-.03	-.07	.03	-.04
Mother working	.25	-.04	.18	-.01	.10	.10
Child's sex (girls coded high)	.00	-.09	-.08	.08	.09	.11
Kindergarten performance		.08	.23	.21	.35	.38
Parental involvement					.16	-.02
Early first grade academic performance					.34	.49
Early first grade conduct					.04	.02

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